

Article 31: Municipal Fleet Electrification Report

Concord needs actions that match the scale of the problem

Select Board Public Hearing
Monday, February 24th 2020

Article 31: Municipal Fleet Electrification Report

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- **Establish a baseline** assessment of related town policies and goals and list all municipal vehicles, supporting infrastructure, fuel procurement processes and greenhouse gases.
 - **Identify potential electric vehicle** alternatives for Concord's municipal fleet.
 - **Assess town infrastructure** needs related to electric municipal vehicle management.
 - **Identify potential funding** opportunities.
 - **Identify barriers** related to prospective fleet transitions and suggest a comprehensive outline of potential solutions to those barriers.
 - **Conclude with a transition path** for Concord's municipal vehicle fleet which aligns with the Town's environmental and financial sustainability goals.
- or take any other action relative thereto.

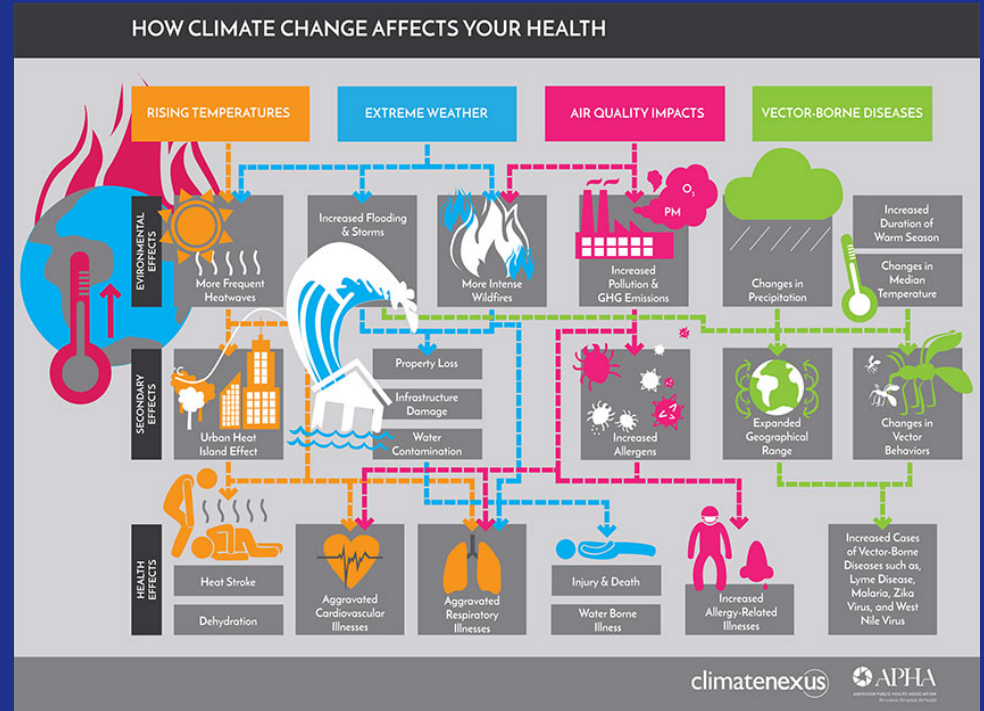
Petitioner: Brian Foulds

- 2011 to now – Assist with the beneficial electronification of the Town of Concord
- 2018 - [Climate Action Advisory Board](#)
- 2016 - [Energy Future Task Force](#)
- 2015 - [Alternative Fuels for School Buses](#)
- As my children have grown up, I have used my free time to help Concord reduce GHG emissions with practical solutions, while addressing the challenges inherent in transitioning to new technology.



How Climate Change Affects You?

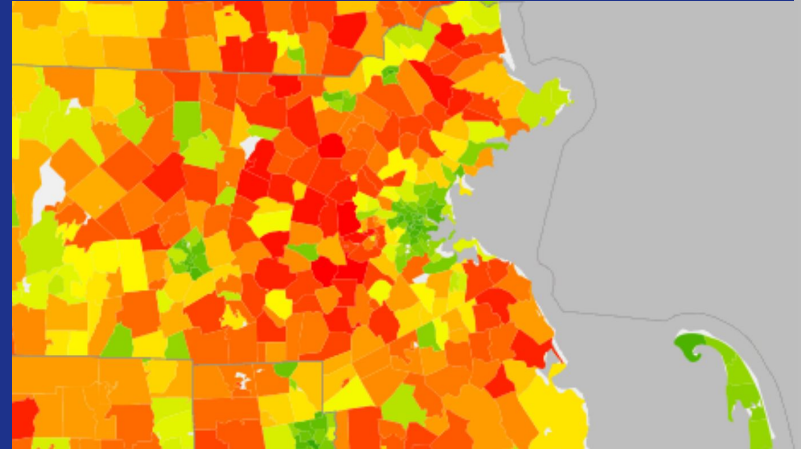
- Money / Environment / Health
 - Displacement & Migration
 - Vector-Borne Diseases
 - 6th Mass Extinction
 - Extreme Weather
 - Health Care Cost
 - Water Crisis
 - Air Quality
- ***“Climate change can act as a threat multiplier for instability in some of the most volatile regions of the world, and it presents significant national security challenges for the US.” CNA 2007***



Massachusetts Goal – Net Zero by 2050

Gov. Charlie Baker
2020 State of the Commonwealth

- “Tonight, I’m committing the Commonwealth to achieving an ambitious climate goal: **net-zero greenhouse gas emissions by 2050.**”
- “We’re a national leader on climate policy, but **we have to take more decisive action**”

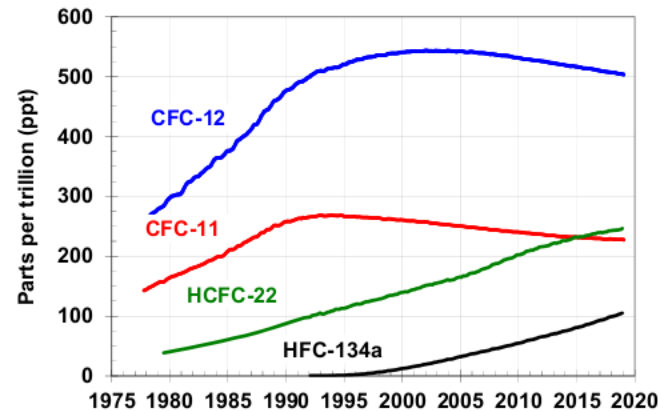
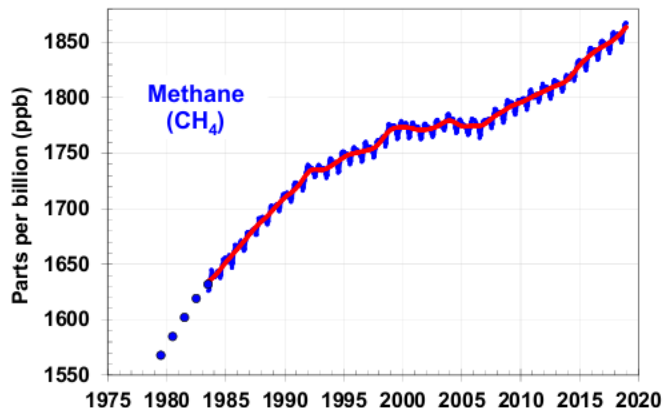
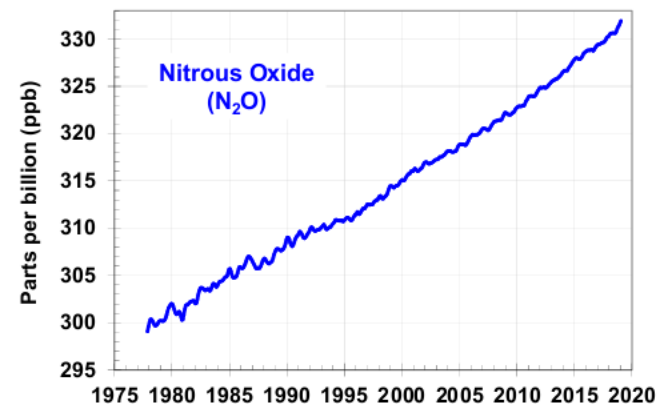
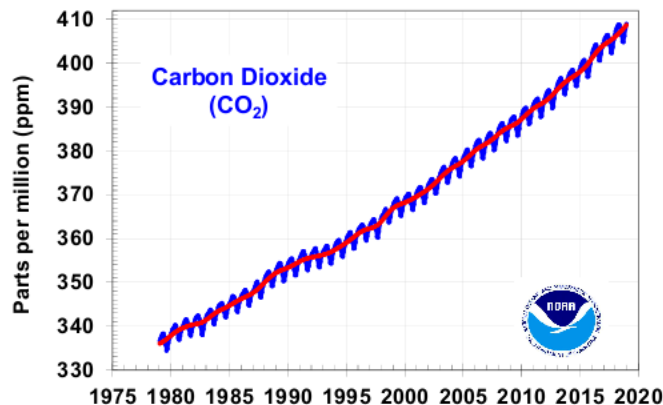


Concord 65.8 MTCO₂e (Red) Average
Annual Household Carbon Footprint

Goals
are
Nice

Actions
Matter

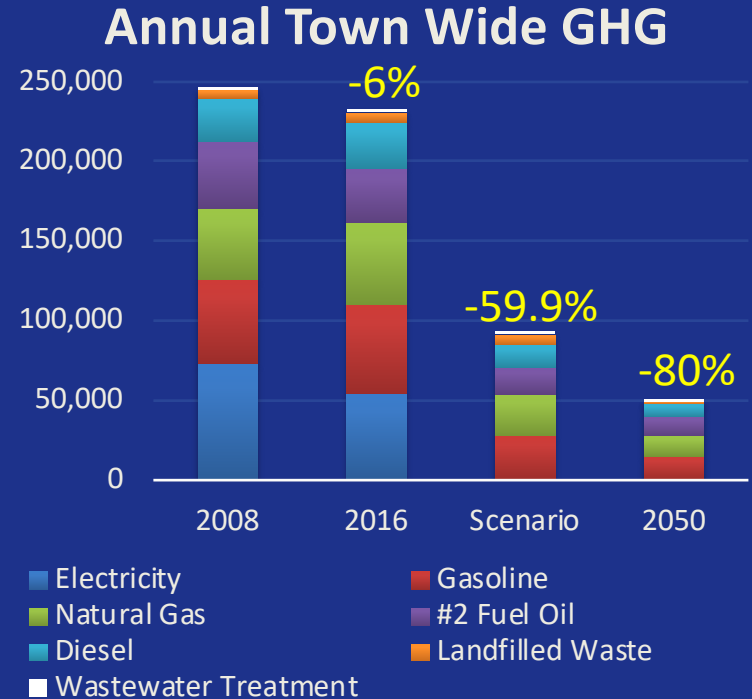
1975-2020



Reduction Strategy: Zero Carbon Electricity

*“A scenario of also replacing half of the 84,754 MTCO₂e transportation emissions and half of the 85,838 MTCO₂e fossil fuel commercial and residential emissions with carbon free electricity represents an additional 85,296 metric ton reduction for a total of 139,530 MTCO₂e, 59.9% of Concord’s 2016 emissions. **No other strategy holds this kind of potential.**”*

Concord GHG Reduction Strategy Analysis (page 32)



Concord's Electric Vehicle Goals

Concord does NOT need another committee setting electric vehicle goals

- Concord Energy Goals (2017 Article 51)
 - 25% Reduction by 2020, a 61,722 MTCO₂e reduction in annual GHG
 - 80% Reduction by 2050, a 197,512 MTCO₂e reduction in annual GHG
- Concord Light Strategic Plan 2018 – 2025
 - 5,120 Electric Vehicle by 2025 (400+ already in town)
- Concord GHG Emissions Reduction Strategy Analysis (KLA)
 - 5,000 Electric Vehicle = -25,934 MTCO₂e or -11.1% GHG town wide

We need a report that shows how town departments will work together to accomplish these goals and lead by example

Concord's Clean Fleet Today



- 4 – Full Electrics
- 2 – Plug-In Hybrids
- 2 – Hybrid Conversions

This is a small amount
of the total fleet



Local Air Pollution

People who live, work or attend school near major roads appear to have an increased incidence and severity of health problems associated with air pollution exposures related to roadway traffic. Children, older adults, people with preexisting cardiopulmonary disease, and people of low socioeconomic status are among those at higher risk for health impacts from air pollution near roadways. (Source [EPA](#))

These risks include:

- Higher rates of asthma onset and aggravation
- Cardiovascular disease
- Impaired lung development in children
- Pre-term and low-birthweight infants
- Childhood leukemia and premature death



So why does Concord need a report?

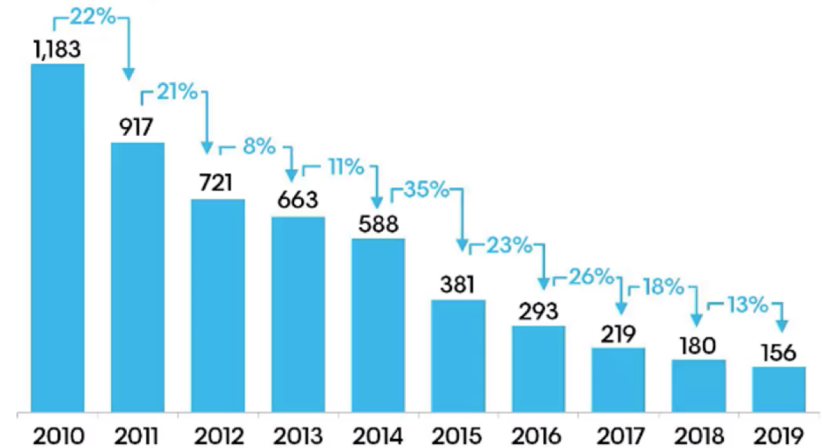
- Departments need to **understand best practices** when purchasing their first electric vehicles
- What is **available today**? See [CA HVIP Eligible Vehicle Catalog](#)
- Department heads need to **work out roles and responsibilities** when electrifying the town fleet
 - Who is responsible for installing fueling infrastructure?
 - How will the Light Plant bill departments?
 - How will departments handle technology like vehicle to grid?
- When purchasing an electric vehicle you need a place to charge it
 - Install a charger with each new vehicle or plan ahead?
- **Always good to have a plan**

Why Electric Vehicles Now?

- Purchase price was barrier
- Grants are available
- **Battery prices are dropping**
- Lower fueling expense
- Lower maintenance expense
- Improves local air quality
- Lower electric rates

Lithium-ion battery price survey results: Volume-weighted average

Battery pack price (real 2019 \$/kWh)



Source: BloombergNEF

Fueling Infrastructure

- We need a plan
- Vehicle to Grid (V2G)

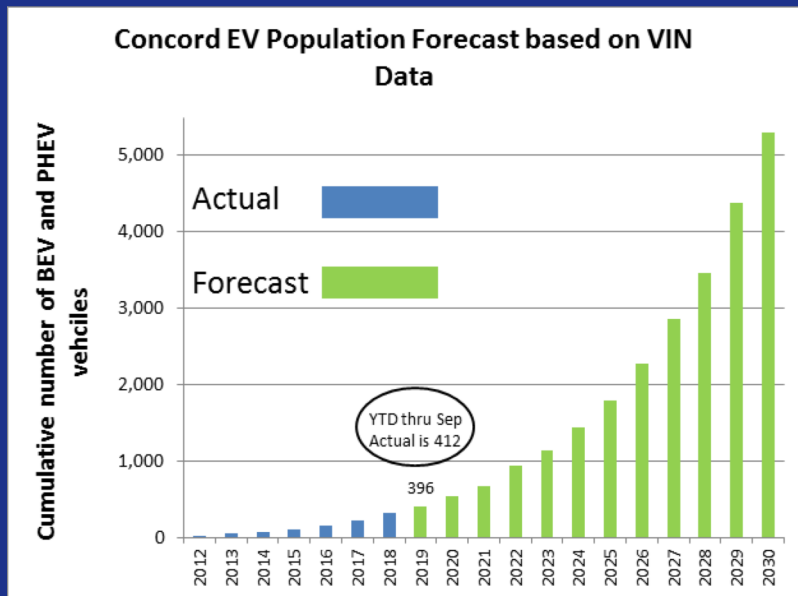


Suggested Report Outline (article 31 text)

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5th Ave NYC 1900-1913

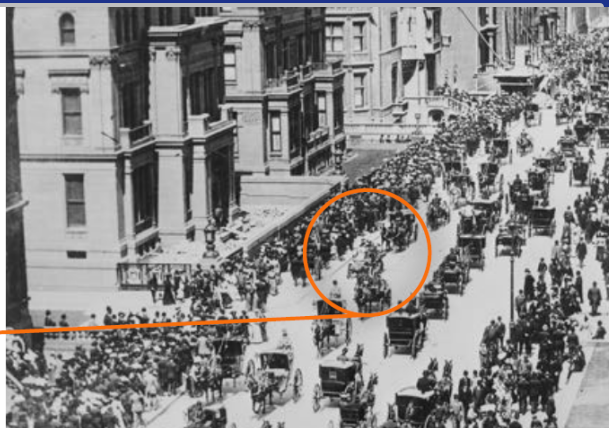
Change happens faster than you think!



5th AVE NYC

1900

Where is
the
car?



5th AVE NYC

1913

Where is
the
horse?



Electric Vehicle Education & Incentives

- [Federal EV Tax Credits](#)
- [State Rebate MOR-EV.org](#)
- [GECA Drive Green EV Discounts](#)
- [ConcordDrivesElectric.org](#)
- [EV Miles Program](#) or [TOUR](#)
- [EV Level 2 Rebate](#) Single Family
- [Shared Charger Program](#) MDU/Work
- [EV Ready Pilot Program](#) MDU



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